

CLAIMS

1. A variator of the toroidal-race rolling-traction type comprising:  
a rotatably mounted input disc;  
an output disc rotatably mounted coaxially with the input disc;  
5 a plurality of rollers transmitting rotation between the input disc and the output disc;  
a plurality of actuators, each acting upon a respective one of the rollers; and  
a plurality of levers, each connected to a respective one of the rollers and its associated actuator.
- 10 2. A variator as claimed in claim 1, wherein each roller and its associated actuator is connected to a respective lever.
3. A variator as claimed in claim 1 or claim 2, comprising a plurality of levers pivotally mounted about a first axis.
4. A variator as claimed in claim 3, comprising a lever pivotally mounted  
15 about a second axis.
5. A variator as claimed in claim 4, wherein the first axis is inclined to the first axis.
6. A variator as claimed in any of the preceding claims, wherein each of the actuators is mounted to the same side of a plane aligned with and passing through  
20 the rotational axis of the variator discs.
7. A variator as claimed in claim 6, wherein each of the actuators is mounted below a horizontal plane aligned with and passing through the rotational axis of the variator discs.

8. A variator as claimed in any of the preceding claims, wherein each of the actuators is located radially outwardly of a common plane extending parallel to the rotational axis of the input and output discs and tangential to the periphery of the larger of the input disc and output disc.

5 9. A variator as claimed in claim 8, wherein the common plane extends substantially horizontally.

10. A variator as claimed in claim 9, wherein the common plane is tangential to the lowermost point of the larger of the input disc and the output disc.

10 11. A variator as claimed in any of claims 8 to 10, wherein the directions of displacement of the actuators are substantially parallel.

12. A variator as claimed in claim 11, wherein the directions of displacement of the actuators are perpendicular to the common plane.

13. A variator as claimed in any of the preceding claims, wherein each actuator comprises a piston reciprocally disposed within a cylinder.

15 14. A variator as claimed in claim 13, wherein the longitudinal axes of the cylinders are substantially parallel.

15. A variator as claimed in claim 13 or claim 14, wherein the pistons are displaceable by means of hydraulic pressure.

20 16. A variator as claimed in any of claims 13 to 15, wherein the cylinders are disposed in a common cylinder block.

17. A variator as claimed in any of the preceding claims, wherein the actuators are double-acting.

18. A variator of the toroidal-race rolling-traction type comprising:  
a rotatably mounted input disc;  
an output disc rotatably mounted coaxially with the input disc;  
a plurality of rollers transmitting rotation between the input disc and the  
5 output disc; and

a plurality of actuators, each acting upon a respective one of the rollers;  
wherein each of the actuators is located radially outwardly of a common  
plane extending parallel to the rotational axis of the input and output discs and  
tangential to the periphery of the larger of the input disc and output disc.

10 19. A variator as claimed in claim 18, wherein the common plane extends  
substantially horizontally.

20. A variator as claimed in claim 19, wherein the common plane is tangential  
to the lowermost point of the larger of the input disc and the output disc.

15 21. A variator as claimed in any of claims 18 to 20, wherein the directions of  
displacement of the actuators are parallel.

22. A variator as claimed in any of claims 18 to 21, wherein the directions of  
displacement of the actuators are perpendicular to the common plane.

23. A variator as claimed in any of claims 18 to 22, wherein each actuator  
comprises a piston reciprocally disposed within a cylinder.

20 24. A variator as claimed in claim 23, wherein the longitudinal axes of the  
cylinders are substantially parallel.

25. A variator as claimed in claim 23 or claim 24, wherein the pistons are  
displaceable by means of hydraulic pressure.

26. A variator as claimed in any of claims 23 to 25, wherein the cylinders are disposed in a common cylinder block.

27. A variator as claimed in any of claims 18 to 26, wherein the actuators are double-acting.

5 28. A variator as claimed in any of claims 18 to 27, further comprising a plurality of levers, each connected to a respective one of the rollers and its associated actuator.

29. A variator as claimed in claim 28, wherein each roller and its associated actuator is connected to a respective lever.

10 30. A variator as claimed in claim 28 or claim 29, comprising a plurality of levers pivotally mounted about a first axis.

31. A variator as claimed in any of claims 28 to 30, comprising a lever pivotally mounted about a second axis.

15 32. A variator as claimed in claim 31, wherein the first axis is inclined to the first axis.

33 A variator substantially as herein described with reference to the accompanying drawings.

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original claims 1-7 and 26-33 amended; remaining claims unchanged; (2 pages)]**

1. A variator of the toroidal-race rolling-traction type comprising:  
a rotatably mounted input disc;  
an output disc rotatably mounted coaxially with the input disc;  
a plurality of rollers transmitting rotation between the input disc and the output disc;

5 a plurality of actuators, each acting upon a respective one of the rollers; and  
a plurality of levers, each connected to a respective one of the rollers and its associated actuator.

2. A variator as claimed in claim 1, wherein each roller and its associated actuator is connected to a respective lever.

10 3. A variator as claimed in claim 1 or claim 2, comprising a plurality of levers pivotally mounted about a first axis.

4. A variator as claimed in claim 3, comprising a lever pivotally mounted about a second axis.

15 5. A variator as claimed in claim 4, wherein the second axis is inclined to the first axis.

6. A variator as claimed in any of the preceding claims, wherein each of the actuators is mounted to the same side of a plane aligned with and passing through the rotational axis of the variator discs.

20 7. A variator as claimed in claim 6, wherein each of the actuators is mounted below a horizontal plane aligned with and passing through the rotational axis of the variator discs.

26. A variator as claimed in any of claims 23 to 25, wherein the cylinders are disposed in a common cylinder block.

27. A variator as claimed in any of claims 18 to 26, wherein the actuators are double-acting.

5 28. A variator as claimed in any of claims 18 to 27, further comprising a plurality of levers, each connected to a respective one of the rollers and its associated actuator.

29. A variator as claimed in claim 28, wherein each roller and its associated actuator is connected to a respective lever.

10 30. A variator as claimed in claim 28 or claim 29, comprising a plurality of levers pivotally mounted about a first axis.

31. A variator as claimed in any of claims 28 to 30, comprising a lever pivotally mounted about a second axis.

32. A variator as claimed in claim 31, wherein the second axis is inclined to the first axis.

15 33. A variator substantially as herein described with reference to the accompanying drawings.